REMARKS

The undersigned understands that this matter has been reassigned from Examiner Thu Thao Havan to Examiner Javid Amini.

On December 10, 2004 the undersigned spoke with Examiner Javid Amini regarding the August 27, 2004 Office Action issued by Examiner Havan. The issue discussed during the December 10, 2004 telephone conference was that the August 27, 2004 Office Action fails to respond to remarks made in the applicant's prior Responses. The undersigned explained that, despite having twice requested that the Office provide a complete response to arguments and remarks presented in previous Responses to the Office, the August 27, 2004 Office Action (as well as previous Office actions) fails to fully address remarks presented by the undersigned and applicant and, due to this failure, it is not understood why the claims remain rejected.

In Response, Examiner Amini provided assurance that a full response would be provided. The undersigned thanks Examiner Amini for this assurance. A full response to all arguments is respectfully requested.

Applicant's remarks, below, are preceded by quotations of the Examiner's comments, set forth in small, bold-faced type.

> **Claim Rejections - 35 USC § 103**
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> **Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinagawa et al. (US patent no. 6,323,863) in view of Rossignac et al. (non-patent literature titled "A dimension-independent model for pointsets with internal structures and incomplete boundaries").**

In the present Office Action, as in the Examiner's December 27, 2003, Office Action, the Examiner has substantially repeated grounds for rejection and/or supporting statements that were previously made, yet fails to address arguments put forth by the patentee. This is improper. Under MPEP 707.07(f), the Examiner must address all arguments set forth in an Office Action

response, and may not simply repeat grounds for rejection without addressing the arguments presented. Although the grounds for rejection have changed slightly to incorporate the teachings of an additional prior art reference (i.e., the grounds for rejection of certain independent claims has changed from a § 102 to a § 103 rejection), the substance of applicant's previous arguments remains applicable. Accordingly, it is again respectfully requested that either the Examiner address all arguments presented by the applicant.

Re claims 1, 5, 7, 9, 11, and 13, Shinagawa discloses a computer system operation method for use with a CAD system in modeling objects, method providing a means for identifying cells of a model, each of cells comprising cell identification data and data defining a feature of the model that is associated with cell (col. 1, lines 7-25; col. 20, lines 6-26; col. 7, lines 40-67; fig. 1) the method comprising receiving input comprising one or more constraints relating to cell information (figs. 1, 18-element 2, and 30-element 21); for each constraint and for each of plurality of cells of a model processing a declarative syntax specifying at least one of received input constrains to determine whether the cell meets the requirement of the constraint (figs 7 and 18-element 3 is the determined unit that determines if the cell meets the requirement of the constraint in programming procedure of figure 7); generating a list of cells meeting the requirements of the constraints (col. 8, lines 1-22; col. 9, lines 13-46; col. 10, lines 5-13-list of array consisting of a list of cells). In other words, Shinagawa discloses a technique for inverting shape data, which is represented in a smaller amount than that of polygon data, into polygon data upon necessity. In that he discloses converting polygon data into precise shape data suitable for free-form surface representation. In addition, figures 9-10 discloses each icon represents either one cell or two cells related to each other through an operator. Two cells may be pasted by coinciding the flat top of one cell with the flat bottom of the other. The cells for hollow contours are depicted with white (open) icons and cells for solid contours with black (solid) icons. In addition, figures 6-8 of Shinagawa disclose scripting language for a program. In that a programmer is a user that is capable to declare syntax for a particular script of programming language to be operable. Figures 6-8 show examples of operator programs in pseudo-Pascal code. These codes define two procedures and three functions for later use for the users.

Shinagawa fails to explicitly teach as claimed geometric cells. Rossignac, on the other hand, specifically teaches geometric cells (col. 1, lines 58-67; col. 2, lines 1-30; col. 3, lines 20-56; col. 4, lines 8-10). Therefore, having the combined teaching of Shinagawa and Rossignac as a whole, one of ordinary skill in the art would have found it obvious to modify the cells of Shinagawa to have a CAD systems including a geometric cells as claimed. Doing so would enable restoration of cells into geometric cells with each cell has a

unique identifier and contains data defining the specific geometric feature with which it is associated (Rossignac: pages 150-151).

In a December 17, 2003, the Office stated that "Shinagawa teaches geometric cell". The Office now takes a contrary position, asserting that "Shinagawa fails to explicitly teach as claimed geometric cells" and now asserts that the invention is unpatentable over Shinagawa in view of Rossignac's teaching of geometric cells. This rejection is respectfully traversed. It is respectfully submitted that Shinagawa does not teach or suggest to one skilled in the art to use the cells of Rossignac in combination with Shinagawa and, even if one could make such a combination, that combination is not what is claimed in the present application.

As explained in the applicant's two prior Responses, the "cells" of Shinagawa are not like those of the present invention. Although the Office now accepts that the Shinagawa does not teach geometric cells, the August 27, 2004 Action tries to apply Rossignac's teaching of geometric cells to the Shinagawa reference despite the now-admitted fact that Shinagawa does not teach the manipulation of geometric cells and, in fact, discloses concepts that are not similar to those claimed in the present invention. The failure of Shinagawa to teach the use of and manipulation of geometric cells was explained in detail in the prior Response and is repeated herein (below). Nevertheless, the Office makes an assertion that a combination of Shinagawa and Rossignac may be made without providing any objective showing whatsoever that one of ordinary skill would have, or even could have, combined the teachings of Rossignac with that of Shinagawa. It is well settled that there must be some teaching to combine the prior art references. As the Office has shown no objective evidence that one of ordinary skill in the art would be able to combine the Shinagawa and Rossignac references to yield the present invention, a rejection under § 103 cannot be sustained. It is respectfully requested that the rejection be withdrawn and all claims allowed.

In addition, even if combined, the teachings of those references would not lead one of ordinary skill in the art to the claimed invention. Even if the references could be combined, the resulting invention would be a method for inverting shape data (as taught by Shinagawa), using geometric cells as taught by Rossignac. It is not clear if such an "invention" is possible or even useful and, in any case, this is not what is claimed by the present application.

As explained in the response to the last OA (for example page 14, §2 and page 15 last § to page 16 first §), the method of the claimed invention is different from the method taught by Shinagawa. The aim is different and the means are different. Shinagawa teaches a method for generating an object structure graph by extracting topological information from polygon data (see the title, the abstract, claim 1, figures 17, 18...). The Examiner himself states in his OA that "(Shinagawa) discloses converting polygon data in precise shape data." This is not what is claimed in the present application; the present application claims an invention which provides for the identification of geometric cells meeting some constraints requirements. The two are simply not the same and a rejection under § 103 is not supported.

Remarks Previously Presented In Response to December 17, 2003 Office Action And For Which A Full Response is Requested

Remarks found in the following section of this Response are substantially identical to those previously presented in response to the Examiner's December 17, 2003, Office Action. As discussed during the undersigned's December 10, 2004 telephone conference with the Examiner, in the August 27, 2004 Action, the Office failed to address these remarks and, accordingly, the undersigned does not understand why the claims remain rejected. Although the Office previously asserted that Shinagawa taught geometric cells, and has now asserts that Shinagawa does not teach geometric cells, the substance of applicant's comments remain relevant insofar as they address Shinagawa's failure to teach or suggest how geometric cells are manipulated and, in any case, applicant's remarks make clear that Shinagawa fails to teach or suggest the invention claimed in the present application (even if one could apply Rossignac's teachings to Shinagawa).

To more clearly distinguish current remarks from those previously presented, the previously presented remarks are shown in indented courier type.

> **A.) Shinagawa teaches geometric cell (col. 1, lines 7-25; col. 20, lines 6-26; col. 7, lines 40-67; figs. 1, 9-10, and 31). In other words, Shinagawa discloses a technique for inverting shape data, which is represented in a smaller amount than that of polygon data, into polygon data upon necessity. In that he discloses converting polygon data into precise shape data suitable for free-form surface representation. In addition, figures 9-10 discloses each icon represents either one cell or two cells related to each other through an operator. Two cells may be pasted by coinciding the flat top of one cell with the flat bottom of the other. The cells for hollow contours are depicted with white (open) icons and cells for solid contours with black (solid) icons. B.) Shinagawa teaches processing a declarative syntax (figs. 6-8). In figures 6-8, Shinagawa discloses scripting language for a program. In that a programmer is a user that is capable to declare syntax for a particular script of programming language to be operable. Figures 6-8 show examples of operator programs in pseudo-Pascal code. These codes define two procedures and three functions for later use for the users.**

The following remarks and arguments as set forth in response to the previous Office Action remain relevant and, if the Office continues to reject the claims of the application, a full response to these remarks and arguments is respectfully requested. It is noted that although these remarks refer to the previous rejection under § 102, the remarks remain applicable to the present rejection under § 103.

> The Examiner's rejection is respectfully traversed. Applicant respectfully submits that the Examiner's rejection may be based on a misinterpretation of terms used in the applicant's disclosure and claims, and the use of terms used in the Shinagawa reference. In particular, the term "geometric cell" as used in applicant's invention is not used in the same context as, and does not have the same meaning as, the term "cell" or polygon used in Shinagawa. It is respectfully submitted that the Examiner's comparison of the "cells" of the present invention, to the polygons and "cells" discussed in Shinagawa yields incorrect conclusions regarding the applicability of Shinagawa as a

prior art reference. It is well established that terms used in the claims of a patent are to be read in the context of that patent's disclosure. Doing so makes clear that the term "cell," as used in this application does not correspond to Shinagawa's polygons or other shape used to form a tessellated representation of a model (i.e., the claimed cells do not correspond to Shinagawa's polygons). Additional references which will further assist the Examiner in understanding the "geometric cells" of the present invention have been identified on an Information Disclosure Statement filed herewith.

It is respectfully submitted that terms used in Shinagawa are used in an different context from terms used in the present application. In particular, Shinagawa is understood as disclosing a technique for "inverting shape data" and this inventive context is quite different from that of the present application. Although the Examiner equates Shinagawa's polygons to the "cells" of the present application, the two are not the same. Shinagawa's "inverting" is a process of approximating exact geometry using polygons. The inversion is used to recreate a modeled surface from a polygonal approximation. The generated list of geometric cells produced in accordance with the present invention (i.e., the generated "Cell Descriptors") are not the same as Shinagawa's polygonal data. In particular, "Cell Descriptors" are not related to recreating a geometry from polygons.

The Examiner, in her comments, also asserts that Shinagawa teaches processing a declarative syntax. It is respectfully submitted that this is not correct. What Shinagawa shows are examples of operator programs in a pseudo-Pascal code. The described language is procedural (based on functions and procedures), not declarative. In contrast, the language of the invention is a declarative language (also referred to as a generative language). A declarative language, unlike a procedural language, is one based on constraints and rules) (see, e.g., initial claim 23). See also given declarative example : edges = " {body=<^^P> dim=1 neighbor={dim=2 attribute="UP"}} at page 8 of the application. It is widely accepted that generative and procedural languages are two separate branches in the field of scripting languages. Because Shinagawa discloses a procedural language, and does not disclose use of a declarative language, rejection under § 102 [and now under § 103] is not proper.

It is further submitted that the use of a declarative language is not suggested by Shinagawa. Indeed, it is submitted that Shinagawa would teach away from use of a declarative language insofar as use of a procedural language is a more "natural" fit for Shinagawa's processing of preexisting datasets consisting of a large number of polygons. In contrast, the declarative syntax described in the present application is not applied to the covering of existing datasets with patchworks of higher order geometries (cells in the cell complex vocabulary). On

the contrary, the declarative syntax used in the present application is such as to permit an engineer to express simply, in high level terminology, the features of a model which are significant for a design process, and in no case is an existing polygonal shape accepted as an input to this process.

To state it differently, the Shinagawa intermediate model is a Reeb graph extracted from the polygonal model, i.e., a set of curves (or poly-lines) traceable on the surface of the model, which run between singular points. This graph is a skeleton of the object. The Shinagawa pseudo-Pascal is not a script, it is a programming pseudo code, and it is appropriate to supporting Shinagawa's process -- namely to creating a cellular model extracted from the polygonal model (with or without surface pasting), and based on the intermediate manipulation of a Reeb graph. The present application, in contrast, is dedicated to generating shapes, for which no preexisting shape exists, from combinations of "higher level specifications, called features" which are entities well accepted in the CAD domain, and common examples of which are the pocket, the pad, or the hole. The problem of covering an existing shape with a set of surface patches, has little in common with that of constructing complex shapes from a set of simple features and, accordingly, the inventions of the present application call for programming techniques that are different and not readily interchangeable with those disclosed in Shinagawa.

The examiner, in her comments, also cites several extracts from Shinagawa against claim 1. With respect to Col 1, lines 7-25, Shinagawa merely describes the well known process of approximating an exact geometry into a polygon mesh. This process is also know as tessellation. The cell descriptor generation of claim 1 (i.e., the generated list of geometric cells) has no particular relationship with the tessellation process of Shinagawa and, in fact, cell descriptor generation is independent of tessellation (though a tessellation process may also be applied to a model). With respect to Col 20, lines 6-26 of Shinagawa, this citation describes a part of the process which determines the topological and geometrical information from the polygonal data. Shinagawa converts a polygonal representation of a model into a topological representation made of cells. Shinagawa does not identify cells, but rather, creates them. Accordingly, Shinagawa cannot be said to disclose the present application's inventions for identifying cell descriptors (i.e., for generating a list of geometric cells) because Shinagawa's polygons are an output produced by Shinagawa's method. Shinagawa cannot identify what was not yet created. In contrast, the cells of the present invention exist as an input to the claimed invention for identification of cell descriptors.

The Examiner is referred to the following references for an additional explanation of the geometric cell as used in the present application (copies of these references are

provided with an IDS filed concurrently with this Response):

- Rossignac, J. R., O'Connor, M. A., "SGC: A Dimension-Independent Model for Pointsets with Internal Structures and Incomplete Boundaries", Geometric Modeling for Product Engineering, M. J. Wozny, J. U. Turner and K. Preiss, Eds., North-Holland, 1990, pp. 145-180;

- Sriram, Wong, and He, "GNOMES: an object-oriented nonmanifold geometric engine", Computer-Aided Design, Vol. 27, No. 11, pp. 853-868 (1995).

More particularly, the examiner is referred to page 855, column 2 of the Sriram, Wong and He article which explains that "The basic entities in SGC are known as cells. These are open connected subdivisions of n-dimensional manifolds (i.e. a cell's boundaries are not included in its point set). Basically, cells generalize the concepts of topological elements (face, edge, vertex) in current modellers, and they also encompass higher dimensional elements (e.g. volume). Associated with each cell is an extent, which represents the geometry of the cell, and boundaries, which are lower dimensional cells that bound it or are embedded in it (interior boundaries)."

In summary, the undersigned respectfully submits that it is inappropriate to interprets the geometric cells of the present application so broadly as to encompass the polygons of Shinagawa or the Morse function cells

discussed at, e.g., col. 8, lines 1-7 of Shinagawa. However, if the Examiner believes that such a broad scope is appropriate, the undersigned would be receptive to adding clarifying language to the claims to refine the scope of the claim language and request a telephone conference with the Examiner so as discuss appropriate clarifying language.

For at least the foregoing reasons, it is respectfully requested that the Examiner withdraw all claim rejections and allow the claims.

Shinagawa Is Not In the Same Field As The Present Invention

It is respectfully submitted that Shinagawa is not even in the same field of art as the present invention and, accordingly, the Examiner's use of Shinagawa as prior art is inappropriate. As described by the Examiner himself, Shinagawa "discloses a technique for inverting shape data, which is represented in a smaller amount than that of polygon data, into polygon data upon necessity." This is NOT what is disclosed and claimed in the present application. What the present application discloses is the generation of cell descriptors (i.e., a list of geometric cells). Nothing in Shinagawa teaches or suggests such an invention.

In the Office's December 17, 2003 Action, the Examiner stated:

> 2. **Applicant's arguments filed September 25, 2003 have been fully considered but they are not persuasive. As addressed below, Shinagawa teaches the claimed limitations.**

In the undersigned's June 16, 2004 Response, the applicant explained that the previously presented remarks were not addressed by the Office and it was respectfully requested that the remarks be addressed. Despite this request, and the MPEP's requirements that the Office fully address arguments presented to the Office, the August 27, 2004 Action failed to address the undersigned's arguments. The following remarks and arguments as set forth in response to the previous Office Actions remain relevant and, if the Office continues to reject the claims of the application, a full response to these remarks and arguments is respectfully requested:

> The undersigned respectfully submits that the Examiner's December 12, 2003, Office Action fails to comply with MPEP requirements and, accordingly, the undersigned respectfully requests that the Examiner withdraw the Office Action and issue a replacement Office action. Reasons why the Examiner's December 12, 2003, Office Action are not compliant with the MPEP are set forth below.
>
> The undersigned respectfully submits that, in both the Examiner's May 23, 2003 Office Action and in the December 17, 2003, Action [and now in the August 27, 2004 Action], the Examiner did not fully and completely stated the grounds for rejection of claims of the application. Furthermore, the December 17, 2003, Office Action does not fully address the arguments presented in the applicant's previous Response and has not fully explained why those arguments are not persuasive. As required by MPEP 707.07(f), "Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take not of the applicant's arguments and answer the substance of it." In response to the previous Office Action, the applicant did traverse the Examiner's rejection of claims in light of

Shinagawa and the Examiner has now repeated those rejections in light of Shinagawa. As required by MPEP 707.07(f), the applicant is entitled to have the Examiner address the substance of the applicant's arguments. However, in the Examiner's current Action, the Examiner's stated a merely conclusory response that the arguments are "not persuasive", but the Examiner has not addressed the substance of the applicant's arguments. It is respectfully submitted that this is improper because it leaves the applicant without any understanding as to why the previously presented arguments and amendments were not sufficient to distinguish over the cited prior art. Quite simply, by simply repeating previous grounds for rejection, without providing any further explanation, the issued Office Action does not provide the applicant or the undersigned with enough information to ascertain why claims were rejected or why arguments presented were not persuasive.

It is respectfully requested that [the Office address the] substance of the arguments presented in the previous response[s]. Previously-presented arguments are repeated below in courier font. The undersigned has also provided explanatory paragraphs numbered (1) through (7) to more clearly explain why the undersigned believes additional explanation by the Examiner is required.

Remarks Presented in Response to May 2003 and December 2003 Office Action And For Which A More Complete Response is Requested

In a May 23, 2003, Office Action, as in the present [December 2003] Office Action [and in the August 2004 Office Action], the Examiner rejected claims of the present application under § 102 in light of Shinagawa. In response to the May 23, 2003, Office Action, the undersigned replied:

Claim 1 recites a method for use with a CAD system in modeling objects. The method providing a means for identifying geometric cells of a model, where each of said geometric cells comprising data defining a geometric feature of the model that is associated with said geometric cell, and identification data. The method includes receiving input comprising one or more constraints relating to geometric cell information; for each constraint and for each of a plurality of geometric cells of a model, processing a declarative syntax specifying at least one of said received input constraints to determine whether the cell meets the requirement of the constraint; and generating a list of cells meeting the requirements of the constraints.

US Patent 6,323,863 to Shinagawa does not teach or suggest the invention recited by claim 1. The Examiner, in his comments, equates the claimed "geometric cell" to Shingagawa's disclosure of a polygon. The two are not the same. To prevent further confusion, claim 1 of the present invention has been amended to further clarify that the claimed "cell" comprises data defining a geometric feature of the model that is associated with said geometric cell and identification data. Shinagawa's polygon's do not define geometric features, but rather are used to express those features. An example of a defined geometric feature is, for example, data identifying the feature as a sphere having a particular radius. Thus, in one embodiment, the claimed geometric cells of the present invention would include, e.g., data defining the feature as a sphere and data specifying the radius. When that sphere is expressed (i.e., displayed on a CRT display), the modeling software may express the feature as a group of interconnected polygons (i.e., the polygons disclosed by Shinagawa). See also,

application page 1, paragraph 2, describing the claimed geometric cells as "cells of the geometrical modeller". However, the underlying definition remains that of a "sphere" rather than that of a polygon.

The undersigned respectfully submits that the current Office Action fails to address the substance of the previous argument. For example, the Office Action does not provide a substantive answer to the following questions raised by the undersigned's prior response:

- (1) Does the Examiner dispute that Shinagawa's polygon merely expresses geometric features, or does the Examiner assert that geometric features are defined by Shinagawa's polygon?

- (2) If the latter, does the Examiner not distinguish between the expression of geometric features and the defining of those features? If the Examiner does distinguish between the two, in what way does the Examiner assert that Shinagawa's polygon defines geometric features, rather than merely expresses those features?

The undersigned believes that these previously-raised issues are significant and need to be clearly addressed to enable the undersigned to determine what, if any, modifications are needed to the claims and to enable the undersigned to determine whether, and what, additional explanation should be provided to the Examiner to more fully explain the distinctions of the present application and Shinagawa. It is respectfully submitted that, at this

time, and based on the Examiner's current Office Action responding to the previous arguments, the undersigned cannot do more than guess as to the Examiner's reason for continuing to reject the claims.

In response to the May 23, 2003, Office Action, the undersigned further stated:

The Examiner, in his comments, further asserts that Figs. 1, 18-element 2, and Fig.30-element 21 of Shinagawa disclose receiving input comprising one or more constraints relating to cell information. The undersigned does not understand how the Examiner has reached this conclusion.

The undersigned wishes to call to the Examiner's attention the relevant requirements of the Manual of Patent Examining Procedure. As required by MPEP § 706.07, ground for rejection "must be clearly developed to such an extent that applicant may readily judge the advisability of an appeal." As required by MPEP § 707.07(d), when rejecting a clam for lack of novelty, the Examiner must fully and clearly state the grounds of rejection. Further, "where the applicant traverses any rejections, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it" (MPEP § 707.07(f)).

With the foregoing in mind, and in consideration of the amended claim 1's clarification of "geometric cell" the undersigned respectfully requests that the Examiner more fully and completely state the grounds of rejection for the above-referenced claim element. For example, what does Shinagawa disclose as a "constraint related to cell information" that is received from a user?

The Examiner, in the present Office Action, has failed to address substance of the above-presented argument and it is respectfully requested that the Examiner do so. In particular, the following point of clarification is requested:

- 3) It is requested that the Examiner more fully and completely state the grounds for rejection concerning the "constraint related to cell information" issue. That is, based on the Examiner's response, the undersigned does not understand how Shinagawa discloses a "constraint related to cell information" that is received from a user.

In the May 23, 2003 and December 2003 Office Action, the Examiner further argued that Shinagawa disclosed:

> **for each constraint, determining whether the cell meets the requirement of the constraint (figs 7 and 18 -element 3 is the determined unit that determines if the cell meets the requirement of the constraint in programming procedure of figure 7);**

The present Office Action maintains substantially the same rejection (now in light of Rossignac's teaching of geometric cells). The undersigned's previous Argument rejecting this assertion, repeated below, remains relevant and was not addressed by the Office. It is respectfully requested that, if the rejection of the claims is maintained, the Office fully address the undersigned's argument or withdraw the rejection.

The Examiner, in his comments, asserts that Shinagawa teaches: for each constraint, the method comprises the step of determining whether the cell meets the requirement of the constraint (disclosed Fig.7 and 18 with the element 3).

Applicant respectfully disagrees. What the cited section of Shinagawa teaches is a particular use of a "Morse" function (see, e.g., "element 3 …determines a Morse function defined on the obtained polygon data" (column 17, lines 8-10)). The undersigned understands a Morse function to be a function for which all critical points are nondegenerate and all critical levels are different. This has nothing to do with the recitation of amended claim 1 which states "for each constraint and for each of a plurality of geometric cells of a model, processing a declarative syntax specifying at least one of said received input constraints to determine whether the cell meets the requirement of the constraint".

If the Examiner continues to view Shinagawa's teachings regarding Morse function as relevant to the claim 1 recitation that "for each constraint and for each of a plurality of geometric cells of a model, processing a declarative syntax specifying at least one of said received input constraints to determine whether the cell meets the requirement of the constraint", then the undersigned respectfully request that the Examiner provide an explanation that is "clearly developed to such an extent that applicant may readily judge the advisability of an appeal." MPEP § 707.07(d).

The undersigned respectfully submits that the Examiner has not fully addressed the substance of this argument. The undersigned believes it essential that the Examiner clearly address the distinctions pointed out by the undersigned regarding Shinagawa's teaching of the use of a Morse function and claim 1 which requires that "for each constraint and for each of a plurality of geometric cells of a model, processing a declarative syntax specifying at least one of said received input constraints to determine whether the cell meets the requirement of the constraint". The undersigned respectfully submits that this recitation of claim 1 makes clear that a Morse function is NOT used for the recited computation and, accordingly, a §

102 [now, § 103 in light of Shinagawa and Rossignac] rejection is not proper in light of Shinagawa which teaches use of Morse functions. In particular, the undersigned respectfully request that the Examiner provide a substantive response to the following issue raised in the undersigned's previous response:

4) Since it is clear that that Shinagawa teaches use of Morse functions for selection of certain geometric features for processing, the undersigned does not understand how the Examiner instead claims that Shinagawa discloses the above-quoted element recited by claim 1 which is not a Morse function. It is respectfully requested that the Examiner address the substance of this issue by further the Examiner's basis for equating a Morse function to the claimed "for each constraint and for each of a plurality of geometric cells of a model, processing a declarative syntax specifying at least one of said received input constraints to determine whether the cell meets the requirement of the constraint". The undersigned respectfully submits that the two are not the same and should not be equated and that a § 102 rejection [now, a § 103 rejection] is not supported.

In the May 23, 2003 Office Action, the Examiner further asserted that Shinagawa teaches:

> **generating a list of cells meeting the requirements of the constraints (col. 8, lines 1-22; col. 9, lines 13-46; col. 10, lines 5-13-list of array consisting of a list of cells).**

In response, the undersigned replied:

Applicant does not understand how the cited disclosure of Shinagawa teaches of suggest "generating a list of geometric cells meeting the requirements of the constraints" as recited by claim 1. If the Examiner continues to view Shinagawa as relevant, then further explanation of the relevance is respectfully requested.

- 5) The undersigned respectfully repeats the request that, in accordance with the Examiner's obligation under MPEP 707.07, the Examiner explain how Shinagawa teaches "generating a list of geometric cells meeting the requirements of the constraints" as recited in the context of claim 1. The disclosure cited by the Examiner does not make this clear. For example:

- The Examiner cites to col. 8, lines 1-22. The undersigned understands this to be merely a discussion concerning the Morse function and construction of certain graph constructs. How does this disclose "generating a list of geometric cells meeting the requirements of the constraints" where that list of cells was first determined by "processing a declarative syntax specifying at least one of said received input constraints to determine whether the cell meets the requirement of the constraint"? The discussion of the Morse function at col. 8, lines 1-22 appears to argue against the Examiner's conclusion (i.e., even if a list of geometric cells is being generated, a point which the undersigned does not agree with, it is clear that this list is not one determined by ""processing a declarative syntax specifying at least one of said received input

constraints to determine whether the cell meets the requirement of the constraint." The undersigned respectfully points out that each element of the claim must be read in-context with other elements of the claim to obtain a consistent reading of the claimed invention. The undersigned submits that this has not been done.

- The Examiner also cites to col. 9, lines 13-46. Again, this disclosure does not appear to support the Examiner's contention for reasons similar to those discussed with respect to col. 8, lines 1-22.

- The Examiner also cites to col. 10, lines 5-13. While, again, there is some discussion of operation on cells, the subject discussed here is not what claim 1 recites. Claim 1 recites "generating a list of geometric cells meeting the requirements of the constraints" where that list of cells was first determined by "processing a declarative syntax specifying at least one of said received input constraints to determine whether the cell meets the requirement of the constraint." The undersigned respectfully submits that the cited text of Shinagawa does not teach or suggest this claim element.

CONCLUSIONS

It is respectfully submitted that the Office's failure to address arguments previously presented to the Office has seriously impeded the prosecution of the present application. It is respectfully requested that, in accordance with the requirements of the MPEP, the Office now allow all pending claims or full address the substance of arguments presented by the applicant so that the applicant can address the substance of any rejections maintained by the Office.

Claims 1-25 are now pending and are believed to be in condition for allowance.

No new matter has been added.

Please apply any credits or excess charges to our deposit account number 50-0521.

Respectfully submitted,

Date: December 16, 2004

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